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ABSTRACT

Vocational education deserves greater recognition, redefined purposes and methods, and a future in the mainstream of public education. Job-specific occupational training should be offered without sacrificing educational preparation generic to all vocations. Secondary vocational education should help students acquire core competencies that will promote job success. Schools should allow flexibility for students who must work, implement dropout identification programs, and coordinate programs to help potential dropouts gain job-seeking and job-keeping skills. Schools can renew and broaden their vocational mission by serving as vocational education catalysts and coordinating with business and industry to provide vocational education. Local schools should not necessarily house all vocational programs. Guidance counseling should be available to all students, cover all courses of study, equally encourage all occupations, and prevent sex bias in occupational planning. Certification for vocational educators needs to be overhauled to provide flexibility to allow recruitment of teachers from business and industry and their preparation through a combination of internship and inservice education. Inconsistencies between the New York State Education Department's occupational futuring plan and the Regents Action Plan should be eliminated by monitoring, evaluation, and revision. Learning opportunities for all students should stress the importance of adaptation to future change at work. (YLB)

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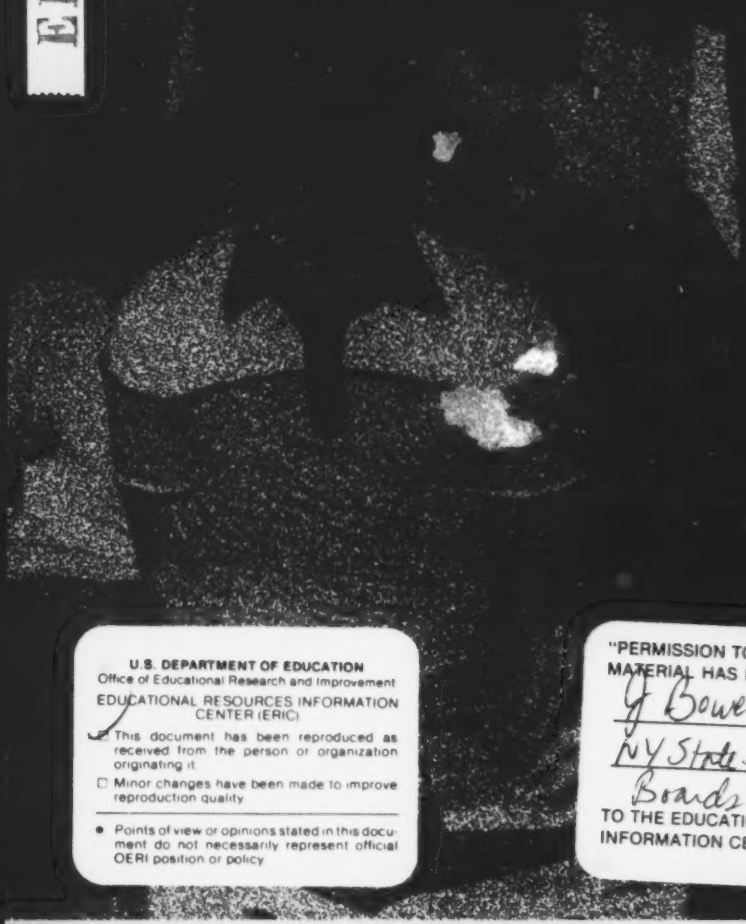

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A Position Paper of the
NEW YORK STATE SCHOOL BOARDS ASSOCIATION

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The Vocational Mission of Public Schools

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Summary of Recommendations

– Vocational education deserves greater recognition, redefined purposes and methods, and a future in the main stream of public education. (1)

– Job-specific occupational training should be offered without sacrificing educational preparation generic to all vocations, including mastery of computational skills, communication skills, and employability skills. (3)

– Trends in job availability suggest that public schools need not prepare large numbers of students for complex, high tech employment. However, secondary vocational education should help students acquire core competencies that will promote job success regardless of content. (5)

– The public schools should create the vocational options, flexible schedules, and cooperative school-business links that will pave the way not just for employment, but for eventual career progression. (6)

– Schools must recognize the need of many students to work. Alternative methods of scheduling for instruction should be implemented to allow flexibility and to curtail dropping out. (6)

– Schools should be afforded proper funding and staffing to identify potential dropouts and coordinate programs to meet their educational and employability needs. School-business partnerships, involving vocational guidance, can help potential dropouts gain job-seeking and job-keeping skills. (7)

– Public schools should capitalize on their ability to create links with business and industry and among various private and public agencies, thereby serving as vocational education catalysts. By focusing more on coordinating and less on trying independently to provide vocational education, the schools can renew and broaden their vocational mission. (8)

– Joint ventures with business and industry should be pursued with four specific goals in mind: 1) gaining access to better, up-to-date equipment; 2) preparing students for jobs that are likely to be available upon graduation; 3) creating employer-student contacts; and 4) establishing an employment record for students. (10)

– The Job Training Partnership Act (JTPA) should be reformed so that the Job Corps program is strengthened, interagency coordination and program accountability are improved, more federal funds are provided for educational coordination, and the shrinking involvement of youth in JTPA programs is reversed. Creative cooperation and a pooling of human and material resources are top priorities and should be encouraged by both federal and state funding. (11)

– Vocational learning opportunities may be organized by local schools, but these schools should not necessarily house all programs. (12)

– School districts should explore interdisciplinary education by creatively combining vocational and academic curricula. (12)

– Urban areas with high minority and dropout populations should have access to more vocational field-based programs. Schools should adapt the Comprehensive Instructional Management System (CIMS) to monitor mastery of occupationally related skills in field-based vocational education programs. (12)

– The basic goals of student guidance should include making counseling available to all students, covering all courses of study, and giving equal encouragement to all occupations. Vocational guidance services offer a good strategy for broadening occupational awareness and preventing sex bias in occupational planning. (13)

– Vocational counseling has become so specialized a field that it should not be a direct responsibility for school guidance counselors. Instead, school counselors should become well versed in *networking* vocational information from vocational educators, advisory committees, local businesses, and job banks so that they may adequately inform and guide students and parents to many options. (14)

– Job placement referral services and development of job search portfolios that students can use when seeking employment are techniques schools can use to link success in school with success in job-seeking. (14)

– Certification for vocational educators needs to be overhauled, but not for the purpose of liberalizing what is already liberal. Rather, flexibility should be sought so that teachers can be recruited from business and industry and prepared for their classroom responsibilities through a combination of internship and in-service education. (15)

– In context with Regents Action Plan implementation, there should be greater opportunity for re-educating current vocational education staff, including vocational administrators, and a closer tie between in-service work and the amendment of teacher certificates. (16)

– Several parts of the Regents Action Plan suggest inattention to the fit between vocational and academic education. Inconsistencies between the State Education Department's occupational futuring plan and the Regents Action Plan should be eliminated by monitoring, evaluation, and revision. (17)

– Learning opportunities for all students should stress the importance of adaptation to future change at work. (19)

– Vocational education for the handicapped and for adults warrants future analysis. (19)

Introduction

Although a number of recent reform studies and reports have mentioned vocational education, primary consideration has been given to academic studies in preparation for higher education. Little attention has focused on vocational education as an important part of a quality high school education. Potentially, it is a key to employability, productivity, and national economic growth. Vocational education deserves greater recognition, redefined purposes and methods, and a future in the mainstream of public education.

The scale, complexity, and growth of vocational education should not be underestimated. Nationally, during the past two decades, the number of individuals participating in vocational education has grown from 1 in 37 to 1 in 17. The number of institutions offering comprehensive vocational education programs has tripled, while program categories have grown from 100 to 400. By 1982, 27 percent of all high school seniors said they had taken at least one vocational education course during the preceding four years.

Data for New York State in 1984-85 showed nearly 800 secondary educational agencies offering occupational education, with 337,000 public secondary students and 79,000 adults served. Throughout the 1970s, New York State's expenditures for all occupational education programs outpaced the increase in general educational expenditures. By spending more dollars for vocational education than any other state during the decade, New York demonstrated a strong commitment to secondary, postsecondary, and adult vocational learning. The state's financial support in the 1980s has been matched by the comprehensiveness of its planning for the future of vocational programs. The planning is far from complete.

In 1984, the National Commission on Vocational Education in the High School was organized. Its recently released report is aptly titled *The Unfinished Agenda.* Perhaps more than anything else, what seems unfinished about vocational education is our expectation of what it can and should produce. Only by reaching a consensus on this expectation will public education's policymakers be able to determine rationally how vocational and other types of education should fit together.

This paper attests to the New York State School Boards Association's strong concerns and optimism about the future of vocational education. The viewpoints suggest how vocational and academic learning should be integrated. An attempt is made to align vocational education's priorities with economic trends and with the needs of disadvantaged youth and potential dropouts. The role of the public schools is defined and illustrated as coordinator, and the importance of where programs are located and organized is discussed. Vocational

and academic guidance counseling are compared in terms of children's needs as well as certification requirements. The qualifications of vocational education teachers are analyzed, and a recommendation that certification be overhauled, but not liberalized, is offered. Finally, this Association's views on vocational education are used to make critical recommendations regarding the State Education Department's futuring project for occupational and practical arts education. From the perspectives established, policymakers may find inspiration for completing the unfinished agenda of vocational education's reform.

A New Mission For Vocational Education

The results of a 1978 study of secondary school occupational education, conducted by the New York State Legislative Commission on Expenditure Review (LCER), showed that among employers needing employees with special skills 76 percent favored occupationally educated high school graduates. Often it is claimed that business and industry prefer to train employees themselves. This is true when costs, training means, and time are not major obstacles. Since four out of five New York businesses are classed as small, however, there is a surprisingly large potential market for those already occupationally trained. Despite the "high tech" nature of the economy, nearly 80 percent of America's jobs *do not* require a college degree. The majority of those jobs are, however, much easier to acquire if the candidate has been occupationally trained.

Even though job specific training helps high school graduates acquire jobs, it should be offered without sacrificing certain educational preparation generic to all vocations. That preparation should help students develop personal skills and attitudes, communication and computational skills, technological literacy, employability skills, and foundations for career planning and lifelong learning.

This broad set of goals for vocational education is advocated in several recent reports on needed educational reforms. In one sponsored by the National Academy of Sciences, *High Schools and the Changing Workplace* (1984), panelists from business and industry were asked to describe the employees they will need in the years ahead. They placed a premium on persons who are able and willing to learn throughout a working lifetime. Specialized, occupational knowledge was perceived as less important than basic intellectual skills which

provide a foundation for future learning, attitudes, and personal habits that produce a dependable, responsible, adaptable, and informed employee.

A more recent survey of employer needs, conducted by the Committee for Economic Development (CED, 1985), showed that large and small companies generally agree on the attributes most needed for entry level success—striving to do work well, learning how to learn, and priority setting. Nearly the same attributes were judged essential for job advancement. The Committee of Business Executives who used this survey as a basis for their report on business in relation to public schools (*Investing In Our Children*) underscored the importance of a hidden curriculum in the schools, one which instills good basic habits and encourages such traits as honesty, reliability, self-discipline, cooperativeness, competitiveness, and perseverance.

In this vein, Mortimer Adler, in his *Paideia Proposal* (1982), has identified common callings to which he says all children are destined: to earn a living, function as citizens, and lead enjoyable and fruitful lives—all in an intelligent and responsible fashion. Adler explains that schools have a vocational mission because they help persons fulfill all three callings. The mission can be accomplished not by specialized job training, but rather by general or liberal education which, in Adler's words, "will prepare the young for earning a living by enabling them to understand the demands and workings of a technologically advanced society, and to become acquainted with its main occupations."

The Myth of a High Tech World of Work

Unquestionably, new technology and increased automation will alter occupational patterns drastically during the next several decades. According to U.S. Department of Labor projections between 1982 and 1995, the fastest growing occupations will call for extensive use of advanced technology. The top five occupational growth rates will entail computer or electrical applications, as shown in Table 1:

TABLE 1

Five Fastest Growing Occupations
1982-1995

OCCUPATION	CHANGE IN TOTAL EMPLOYMENT (000)	PERCENT OF TOTAL JOB GROWTH	PERCENT CHANGE
Computer Systems Analysts	217	.8	85.3
Computer Programmers	205	.8	76.9
Computer Operators	160	.6	75.8
Electrical Engineers	209	.8	65.3
Electrical and Electronic Technicians	222	.9	60.7

However striking these growth patterns may be, they tell more about the rate of change in the workplace than actual job availability. The fastest growing job categories will not create the largest numbers of new jobs in the long run. In contrast with Table 1, Table 2 illustrates the point that the top five jobs with the *largest*, though not necessarily the *fastest*, job growth over the next decade will not demand a sophisticated knowledge of or skill in using complex technology.

TABLE 2

Five Occupations With Largest Job Growth
1982-1995

OCCUPATION	CHANGE IN TOTAL EMPLOYMENT (000)	PERCENT OF TOTAL JOB GROWTH	PERCENT CHANGE
Building Custodian	779	3.0	27.5
Cashiers	744	2.9	47.4
Secretaries	719	2.8	29.5
General Office Clerks	696	2.7	23.5
Sales Clerks	685	2.7	23.5

Evidently, high technology will not generate the bulk of occupational opportunities needed to maintain a vital American economy in the long run. For most new jobs, no college degree will be necessary; nor will job performance demand highly specialized technical knowledge. Technology will make jobs easier to perform. Even in so-called high tech industries, only a relatively small proportion of jobs will call for higher education to learn unusual technical skills.

What do these trends signal to educational policymakers? First, the public school goal of sending as many graduates as possible on to college does not align with the realities of job opportunities in the future. Second, vocational preparation in secondary schools should help students acquire core competencies that will promote job success regardless of job content. Whether analytical or attitudinal, these competencies can be exercised in a variety of jobs and, therefore, will foster employment adaptability and the individual capability to re-educate oneself as the need arises.

These educational priorities show why business has rediscovered the importance of public schooling. Columbia Teachers College President Michael Timpane explains:

> Business leaders have come to understand that the emerging labor supply problem is essentially an educational problem. The knowledge and skills required in today's labor force are general rather than specific to any firm or industry. Businesses need employees who can read, write and count, but these employees must also be able to solve problems, learn new things and understand people. (*Phi Delta Kappan*, February 1984, p. 390)

Over a working lifetime, the typical individual works for at least 10 employers in about the same number of different jobs. Because change is the norm, employees need to be equipped with the tools to turn this sequence of jobs into a fulfilling and economically productive career. Careers are built upon performance over a number of years, and they incorporate the repetitive challenge of new responsibilities, knowledge, and skills. Consequently, the ability to learn in the face of constantly changing circumstances is essential to success at work.

The public schools, accordingly, should create the vocational options, flexible schedules, and cooperative school-business links that will pave the way not just for employment, but for eventual career progression. To accomplish this, a balance must be struck to prevent overly specific high tech instruction from excluding academics and problem solving skills.

Youth Employment and Unemployment

The image of a teenager rushing to an after-school job has become a reality for a steadily increasing proportion of students during the past four decades. For the class of 1982, junior males worked an average of 12 hours per week, junior females approximately nine hours per week. Many work more than twenty hours per week. Youth are showing a growing need to earn money, to assert a degree of independence from parental and school controls.

The flexibility and skills needed to combine work and school are not the same for all students. Those who must work or want to work often cannot cope with the rigidity of school schedules. The students may lack basic academic and employability skills. The decision to leave school for work thrusts the student into a labor market for which he or she may not be prepared. Therefore, schools should seek alternatives which will coordinate the need of students to work with the need to learn skills essential for successful employment.

Unemployment among youth can be curbed by changing the employability skills and competencies of the school population. The key to change is education. National research has confirmed repeatedly that education increases employment stability and earnings, partly overcoming the effects of family background and socioeconomic status. When occupational *and* academic graduates of public schools have been asked to assess how their education has contributed to their full-time jobs, survey results have shown that *occupational* graduates are much more likely to attribute obtaining the job, doing the job, getting promoted, and liking the job to the education they received (Legislative Commission Expenditure Review Survey, 1978). The relative benefits of occupational education notwithstanding, just staying in school helps to reduce unemployment. For one thing, one more student acquiring an education is one less student in the job market. For another, employers prefer individuals who are older and have more education and experience—at least when they consider whom to hire for full-time, permanent positions.

The greatest disadvantages in making the transition from school to work are experienced by dropouts. These youngsters tend to be minorities, living in an urban or inner city environment, and often victimized by some form of cultural, social, or economic deprivation. For them school is a vital source of socialization and personal attachment. It is also a route to economic self-sufficiency. Unfortunately, when these students leave school prematurely, they deprive themselves of the tools they will need to survive without public assistance. Therefore, potential dropouts present a special challenge for the schools.

Dropouts, or otherwise disconnected youth, also present a challenge to business and industry. In a report issued by the Business Advisory Commission of the Education Commission of the States (*Reconnecting Youth*, 1985), at-risk youth are defined as young people who face uncertain futures as workers and citizens because they are alienated, economically disadvantaged, or otherwise deprived. The Commission's statistical analysis shows why these at-risk youth present long range difficulties for business:

> In 1978, 23 percent of the total U.S. population were between the ages of 16 and 24. By 1983 that percentage had dropped to 19 percent. Based on current birth rates, it will further decline to 16 percent by 1995. At the same time the percentage of youth at risk is growing. Assuming that the nation's economy continues to expand at a moderate pace, business will be forced to dip increasingly into the at-risk segment of the entry-level youth employment pool. (p. 17)

Judged simply by lost opportunity to learn basic social and academic skills, dropping out of school represents an economic *and* social dilemma. The severely limited job options open to those who drop out create a new segment of the unemployed population. Aside from adult unemployment and general youth unemployment, which began to rise noticeably in the early 1960s, dropouts constitute a portion which remains unaffected by general economic conditions. A combined lack of specific work skills, job seeking and job keeping skills, and socialization skills makes this group the most difficult to employ. Dropouts generally exhibit behavior which denotes insubordination to authority. By attending school, the student must "sacrifice" his or her independent status by submitting to authority and cutting off income possibilities.

What sorts of programs are needed to retrieve dropouts and to create the right combination of opportunities to match their needs for education and employability? Research has uncovered certain essential features: (1) access to, and incentives to participate in, an educational program to learn basic skills and earn a high school diploma; (2) opportunity to learn employability skills, reinforced by career counseling; (3) a real work experience that produces a financial reward and a sense of accomplishment and independence; and (4) support services which range from child care to housing assistance and transportation.

Who can coordinate these features most effectively? The public schools can, if afforded proper funding, staffing, and links to other organizations as described in the following section.

The Public School Role: Coordinator or Direct Provider of Vocational Education?

Historically, public schools have tried to fulfill the dual role of coordinator or facilitator *and* direct provider of vocational education. Within this framework, public schools have worked with business and industry, while continuing job-specific training. The dual role has proved successful for many school districts, but in the long run it may not be cost effective or educationally efficient. Instead, schools should consider forging stronger links with business and industry. By so doing, schools may offer more diverse and technical work experience for students, better in-service preparation for teachers, and a means to ensure that student skills and proficiency match the needs of the job market upon graduation. At the same time, cooperation with business and industry may free the schools to concentrate on teaching basic writing, reading, and computational skills, interpersonal relations, and good work habits.

Schools need not invent partnerships from scratch. Successful examples, often a result of involvement by other organizations within the community, are plentiful. According to the National Committee for Economic Development, the success rate is driven up by certain basic characteristics: specific, mutually agreed upon goals; focus on the instructional core of schooling – students, teachers, and principals; and the leveraging of human, material, and financial resources. The following models from school districts across New York State illustrate success:

- **Vestal Central Schools.** Vestal has a varied program of cooperation with the local business community. Citizen advisory committees, strengthened by the expertise of business leaders, have helped the district develop new goals in response to national studies and determine the disposition of unneeded property.

  As the largest employer serving the district area, IBM Corporation has invested in the schools' educational program by donating computers and providing teacher training for related software use. Both IBM and Singer-Link have either funded or made available opportunities for district personnel to learn new management skills. Other cooperative ventures have included education concerning the use of quality circles, student exchange programs, and work-study options which often have produced employment for students upon graduation.
- **Lewiston-Porter Central Schools.** Facing budgetary restrictions, Lewiston-Porter administrators discovered and were able to obtain

from Carborundum Company in Niagara Falls a large supply of research laboratory glassware. Later, the district was successful in obtaining a grant for entire word processing system and hardware from the same company. The grant proposal showed how the equipment could be used for business education, staff in-service programs, administrative and guidance support, and community outreach.

- **West Seneca Central Schools.** In cooperation with the Chamber of Commerce, which surveys local businesses to determine job needs, West Seneca offers its high school students opportunities to work part-time in such fields as marketing, food service, and health. Supervised by the employer, the students either volunteer or are paid modestly for up to 16 hours weekly. The district also has "shadow" programs in which students may observe on-the-job performances of attorneys, dentists, and other professionals.
- **Norwich City Schools.** Norwich High School has cooperated with the Norwich Eaton Pharmaceutical Company in offering a school day program wherein students are bused to the company so they can observe and talk with employees. Recently, the company has helped the district expand occupational guidance offered to students. Arrangements are made for them to have discussions in school with company biologists, librarians, security guards, plumbers, electricians, and others. Also, students may ask for an individual mentorship with a company employee. The cooperative program is guided by a company committee.
- **The Louis Armstrong Middle School 227 – Queens, New York City.** The school sponsors a community mentorship project with the local merchants' association. The immediate objective is to give the students work experience, to provide the businesses and civic associations in the community with an after-school helper program which will enhance their public image, and to provide the faculty with the opportunity to provide practical lessons in career awareness. Selected students are assigned to work at local business and/or civic association sites during after-school hours for one or two days per week. The program is a volunteer project; students are not paid. Mentors are identified by local business association leadership or civic organization representatives.

The public schools should be thought of as vocational catalysts. In this capacity, school officials can create the conditions for collaborative ventures with business and industry. Cooperation of this type benefits education in at least four ways: 1) by helping the schools gain access to better, more modern equipment that can be used to ensure students are taught up-to-date skills; 2) by helping the schools ensure that students are prepared for jobs that are likely to be available upon

graduation; 3) by creating employer-student contacts from which students may gain positive work habits and employability upon graduation; and 4) by establishing an employment record for students, which may help them get jobs.

Collaboration with private business and industry is only one of many ways school districts can reach toward better educational and support services for youth with special needs. For example, relatively few public secondary schools have taken advantage of opportunities created by the State Division for Youth (DFY) to work with various local service agencies. In 1985, the DFY provided $12 million to 610 local agency programs that in some way offer high school equivalency or alternative education services, and social/human service agencies.

The programs are equally varied. They include alternative schools, development of both broad and specific social and subject matter skills, and counseling for a variety of problems. The programs try to overcome one or more obstacles to vocational habilitation or rehabilitation, social adjustment, and job success.

A comprehensive approach may be the best approach where disadvantaged youth are concerned. Expensive and difficult to maintain, it nevertheless produces results. Take Job Corps as an illustration. Although the Comprehensive Employment and Training Act (CETA) of the 1970s is generally regarded as a failure, one of its smaller components, the Job Corps, has achieved good results as a payback on investments. The Job Corps' strategy is to bring together remedial education, vocational training, health care, and counseling in a residential setting. A relatively small number of individuals are placed carefully in jobs matched to their capabilities. In recent studies of youth employment, Job Corps is singled out repeatedly as an excellent model. Unfortunately, the future of this multi-faceted program is threatened severely by proposed federal funding cuts. Job Corps deserves serious reconsideration which should be given at the same time comprehensive reforms of the current Job Training Partnership Act (JTPA) are studied.

The following JTPA related reforms are needed. *First, there is a need to improve interagency coordination, to eliminate overlaps and duplication in state administration of JTPA, and to conduct the research to demonstrate program accountability.*

Second, the eight percent set-aside required by the Act for educational coordination and services is an insufficient proportion and should be increased. JTPA targets the economically disadvantaged, but its standards have created a situation where the better educated, better off financially, better motivated, and more job-ready are more likely to be eligible for program participation. As one JTPA official has noted, the private sector, heavily involved in local and regional standard setting through JTPA's Private Industry Councils, has viewed

JTPA "primarily as a vehicle to connect economically disadvantaged individuals with labor market needs in the most efficient manner, not as a means of bringing individuals most in need of assistance into the workforce." By rebalancing federal funding to place a higher priority on educational coordination, federal policymakers would embrace the social obligation sometimes neglected by those whose primary motive is short term profit.

Third, the shrinking involvement of youth in JTPA programs should be reversed. Recently, the Statewide Youth Advocacy, Inc., reported that New York State's CETA youth program served 143,000 in 1981, whereas in 1984 only 14,000 youths were served by JTPA. Reasons range from inadequate training stipends and the short term nature of programs for those needing help with basic skills, to lack of support services and absence of tie-in to remedial programming.

JTPA funds potentially can be pooled with other funding sources for employment and educational programs within various state agencies. To date, however, the urgent needs of disadvantaged youth for *combined* education and employment have not been addressed adequately. *Creative cooperation and a pooling of human and material resources, encouraged by federal and state funding, are top priorities.*

Where Should Vocational Education Programs Take Place?

The National Commission on Secondary Vocational Education, in its report *The Unfinished Agenda,* recommends that "vocational education should take place primarily in the comprehensive high school". There is evidence to the contrary, for local schools do not always have the resources to stay current with the equipment and training requirements of business and industry, and ever changing societal trends. Therefore, separate vocational educational schools, shared-time skill centers, and other cooperative arrangements should be considered.

Though local schools may organize vocational learning opportunities, the schools should not necessarily *house* it *exclusively.* There are several reasons why.

Over the years, Boards of Cooperative Educational Services (BOCES) have provided an excellent alternative to direct provision of vocational education by local public schools. A collective extension of the capabilities of their component districts, the BOCES have established programs of basic skills education, occupational math and science courses, interactive instructional television, and alternative education

programs to meet special needs of students. Alternative education programs are designed as an intervention for students experiencing difficulty, not as a "mechanism" to supplant the school districts' right to educate students. Students are, therefore, based in their home school districts, but receive their vocational learning opportunities elsewhere.

Despite the advantages of using alternative physical settings to provide vocational learning, there are good reasons to integrate academic and vocational curricula. The Regents have recognized this by advocating interdisciplinary projects for all students. Legislation, moreover, has authorized BOCES to offer academic programs and services, thereby encouraging new ways to combine academic and vocational course schedules. Whether building a greenhouse in science class, hanging wallpaper in a plane geometry class, or learning business aspects of managing a performing arts group, both academically and vocationally inclined students can benefit from working together. Mutual respect for one another's talents and interests may grow.

Vocational educational services are urgently needed, especially in urban areas with high minority and dropout populations. More *field-based* programs should be initiated. To successfully implement vocational field-based education, an enriched Comprehensive Instructional Management System (CIMS), including occupational and exploratory skills, is a promising approach. More details about CIMS are available from the New York State Education Department or New York State School Boards Association.

The Role of School Guidance Counseling

The National Center for Education Statistics conducted a longitudinal study, *High School and Beyond* , for the years 1978-1982. The study brought into focus some clear patterns of participation in secondary vocational education. Three findings bear directly on the role of guidance services: 1) vocational education is taken primarily by students of low socioeconomic status (SES) and by ethnic minority students; 2) academic (college preparatory) students take few courses in vocational education; and 3) there are marked sex differences in overall vocational course-taking behavior. The conditions that contribute to these findings, ranging from conflicting student schedules to some guidance counselors' use of informal quotas in certain courses, constrain student access to vocational studies.

For a student to choose a vocational education course, the student and, if possible, the parents or guardians must know what vocational

education is (both exploratory and occupational types), how such courses relate to their personal and occupational goals, and how they can help reach those goals. Our secondary schools have not been equipped to deliver comprehensive guidance to serve all students. The basic goals of such guidance are to assure that counseling is available to all students, deals with all courses of study, and gives equal encouragement to all occupations. It is perhaps unreasonable to think that vocational guidance could, for example, affect obvious gender bias in the profession. To an extent, the fact that the average female earns more credits in definitive occupational type courses and fewer credits in exploratory courses with more implied occupational choices, reflects a societal attitude which is slow to change. Although guidance services alone may not change that, it is an obvious starting point, not only to give students new directions, but to break down the perpetuation of sex bias.

A recent study by the National Center for Research in Vocational Education on the effects of education and training on the productivity and employment of youth states that one important way for schools to help students avoid unemployment and get better jobs is by "improving the quality and facilitating the flow of employment-related information to students and their potential employers." This statement underscores yet another aspect of vocational education: learning about careers. Making job choices and learning job seeking skills are all part of the preparation students need to enter the workplace. Schools and school counselors must be coordinators of this flow of necessary information. *It is unreasonable to expect those prepared as school counselors to serve as vocational counselors, able to address highly specific vocational problems of students.*

Vocational counseling has become a specialized field, sought by both traditional blue and white collar workers. In the realm of school guidance counseling, preparation has consisted primarily of child psychology and practicum in pupil personnel services. To emphasize the difference in preparation between school and vocational counseling, currently a licensed vocational counselor with a masters degree in vocational rehabilitation counseling may need to take up to 36 additional credits for school guidance certification, based on a survey of Capital District colleges and universities. From this, we may conclude that the school counselor should be well versed in the networking of vocational information, as opposed to *performing* the actual advisement. Without having to revamp the entire preparation process for school counselors, it would be wise to center on equipping guidance counselors with adequate information from vocational educators, advisory committees, local businesses, area job banks, and employment networks so that they may adequately inform and ultimately guide students and parents to the many options open to them.

One such program is the Skills Improvement Program in the Rochester City Schools. Coordination of guidance services and linkage with the Urban League of Rochester provide students with referrals to tutors and mentors from area businesses and community agencies who can offer firsthand knowledge and work experience. Networking of this type gives all students access to vocational guidance, while maintaining a connection between schooling and work. Policies governing school guidance can motivate students by pointing out the link between success in school and success in the labor market. Job placement and referral services, effective policies on releasing information about students to potential employers, and development of job search portfolios that students can use while seeking employment, are all examples for potential coordination by school guidance offices.

Should Certification for Vocational Education Teachers Be Changed?

Statewide, three vocational subject areas—technical, health, and trade—are taught by public teachers whose typical age exceeds 50 years. In New York City's 23 vocational high schools, the median age is several years higher. Between 1979-80 and 1983-84, the number of secondary level vocational teachers in New York State declined about twelve percent. The decline for all secondary teachers was only three percent. During this period, secondary student enrollment (grades 7 through 12) dropped approximately ten percent. These figures confirm a disproportionate loss of vocational teachers, one that will become worse in the near future because so many vocational teachers are either nearing retirement age, or may be lured away by attractive salaries in business and industry. Clearly, more attention should be given to inducing new instructors to enter the field. Inflexible and daunting certification standards and excessive bureaucracy should not block the entrance when, in fact, the exit door widens each month. *However, a balance must be struck between the practical work experience vital for vocational education teachers and the professional body of knowledge requisite for good teaching.*

Our certification standards are in need of overhauling, but not for the purpose of liberalizing them. Indeed, when compared with other certificates, those for occupational subjects already are liberal. They are differentiated so that the necessary academic preparation and occu-

pational experience varies depending upon the subject to be taught. Furthermore, in certain trade subjects and specialized subject areas in agriculture, health occupations, and home economics, prospective teachers need not have higher education degrees to obtain certificates.

Certification is our sole means at the state level for ensuring that teachers are prepared properly for the classroom. Comprehensive change in the content of occupational education courses should not be used as an excuse for lessening the requirements that hold a strong certification mechanism in place. Reasons for some flexibility, however, should be considered. Especially because the availability of vocational educators is expected to shrink rapidly in the next decade, the logic of recruiting talented individuals directly from business and industry is indisputable. At the same time, they should quickly gain or already be able to display the skills and knowledge of teaching. Therefore, combinations of supervised internships and in-service opportunities should be required of each newly hired vocational educator whose pedagogical preparation may be lacking.

In addition to bringing qualified people into public school teaching, we cannot ignore the need to adapt those currently employed to new interpretations of vocational education. The State Education Department's vocational futuring project and the Regents Action Plan redefine vocational education in New York State. Part of the redefinition includes new courses mandated by the state, including technology education and home and career skills in grades seven and eight. Another part specifies modules of secondary level instruction, some incorporating skill clusters and others geared more toward the traditional, occupationally specific courses of the past. The need for certification flexibility is compelling. Consideration should be given to greater opportunity for in-service re-education for current staff.

An important aspect of maintaining standards of occupational teaching certification should be a closer tie between in-service work and the amendment of certificates. This point warrants particular attention due to changes in occupational sequences as put forth in the Regents Action Plan. Effective delivery of courses such as occupational math, occupational science, technology and home and career skills will be largely dependent upon the adaptability of the certification process and teaching staff.

As new configurations of in-service education are developed, tested, and funded, the needs of vocational administrators should not be neglected. Regents Action Plan requirements, along with the necessity to cooperate with business, industry, and various community organizations, will call for administrative ingenuity and heightened awareness of human and material resources. Accordingly, staff development should include vocational administrators as well as teachers.

Vocational Education In New York: Its Role In Futuring And The Regents Action Plan

In 1981, the State Education Department initiated a process of futuring – that is, redefining and restructuring – occupational and practical arts education in New York State. The process involved representatives from elementary and secondary education, business and industry, and postsecondary institutions. Intended not simply as an updating of the curriculum, but rather as the development of a program with a built-in capacity to *self-adjust* as the future evolves, the futuring project relied heavily upon a committee structure. The goals of the project were to examine current trends for clues about potential job and life skills for the future, and to include those skills in new curricula; to create an environment in which students can learn readily transferable skills; and to structure the educational system so that all individuals, including adults in need of basic education or retraining, can be served effectively and efficiently.

Recommendations from the various committees, submitted in June 1983, are encapsulated by the new definition of occupational education, which now includes practical arts education:

> Occupational education is a continuum of learning experiences in which students become aware of a broad spectrum of occupations, develop and apply skills and knowledge which are adaptable to various personal and career roles, and prepare for entry into occupations. This continuum is part of a lifelong process through which individuals develop personal, family, social, economic, technological, and occupational competencies to meet the needs of self and society.

The futuring project and development of the Regents Action Plan occurred concomitantly, with the latter involving a yearlong goal setting phase followed by development of specific recommendations and eventually specific implementing regulations, with field input solicited at each major turning point. One of the 10 major educational goals adopted by the Regents – a goal which underlies the Action Plan – follows:

> Each student will develop general career skills, attitudes, and work habits and make a self-assessment of career prospects. Students not directly pursuing postsecondary education will acquire entry-level employment skills.

In keeping with this goal, the Regents underscored the following as one of the five basic principles of the Action Plan: "We must consider

all elementary and secondary education as preparation for later learning for employment, personal growth, and family or civic responsibility."

Reflected in the Action Plan are: (1) required courses in grades 7 and 8 in technology and home and career skills, incorporating strands of guidance, career awareness, personal competencies, consumer responsibilities, and applications of technology both in the workplace and at home; (2) provision for all occupational sequences to include an introduction to occupations, recognizing that there are skills and competencies to all specialized programs, and that there should be a *transitional or developmental* learning phase between the initial phase of learning basic skills and the final phase of learning job-specific skills; (3) variation of units required (three to six) in occupational education sequences for a diploma, recognizing differences in the complexity and skill levels of various types of occupational education programs, each exam designed to measure "specific occupational competencies as well as the application of occupational awareness, job readiness skills and life skills to the specific occupational area tested"; (4) dual credit toward sequence requirements for occupational math and science, promoting more manageable schedules for better student access to programs; (5) revision of high school equivalency program requirements for 16 and 17-year-old students so that up to half of each week's studies and activities may involve vocational exploration, counseling, and/or work experience.

Despite the above consistencies, there are major differences between the futuring project and the Regents Action Plan:

—The futuring committees recommended that occupational education be provided in modules of instruction (school districts could choose which ones to offer) designed for "flexibility to serve individual education needs and for easier revision." The Action Plan establishes very specific time and sequence requirements for coursework, relying heavily upon a unit-of-study definition. Thereby, the flexibility of vocational education is eliminated.

—The futuring committees called for regulations pertaining to student achievement that would require *acquisition of specific competencies* and have little to do with course completion and time limits. The State Education Department admits this recommendation "is in conflict with the type of recommendations in the Regents Action Plan". But nothing has been done to resolve the conflict.

—The futuring committees recommended ample opportunities for youth to exercise vocational leadership through extracurricular activities, and opportunities for educationally related work experience and learning at job sites. The Action Plan establishes such stringent scheduling requirements, especially for Regents students, that such opportunities may become logistically impossible, despite strong State Education Department advocacy of this type of stu-

dent participation. One aspect of the difficulty may be students getting to and from BOCES for vocational coursework.

- The futuring committees recommended a system of multiple entry and exit points for vocational students, facilitating the involvement of adults, out-of-school youth, and those students who many change their minds about vocational education along the way. Academic demands upon students will produce demands for remediation, counseling, and tight scheduling. By meeting these demands, school districts may have to restrict alternative or flexible program formats.
- The Action Plan discriminates against students who wish to pursue both a Regents diploma and an occupational sequence. To satisfy the requirements of Part 100 regulations and the Action Plan, the academic student can complete two three-unit sequences by taking only two extra units above the basic 16.5 required. However, many Regents level occupational education sequences call for five or six extra units. Thus, Regents students who want to pursue occupational education are penalized in effect by having to take a greater course load to obtain a diploma. The futuring committees stressed the importance of access to vocational education. The Regents have contradicted this intent in their plan, despite the best of intentions.

This last incompatibility highlights the Action Plan's inattention to the fit between vocational and academic education. After all, 38 percent of our high school vocational education graduates go directly on to college, many with a Regents diploma. In New York, 30 percent of Regents diplomas are awarded to students with a vocational education sequence. Educators have suggested a number of ways to resolve the inconsistencies between occupational education's future as reflected in the futuring project and the future of all public education as reflected in the Regents Action Plan. Unless those inconsistencies are excised, as part of the monitoring, evaluation, and revision of the plan, the percentages we have noted will decline. The gap between equity and excellence will widen, and the meaning of educational excellence for New York State will be narrowed.

Adaptive Learning

Our rapidly changing technological world requires its workers to adapt skills and laterally transfer knowledge from one work situation to another. Our public schools must redesign their goals, programs, and strategies to meet this challenge.

Traditionally, we have divided learning into the practical arts, the liberal arts and the fine arts, and, perhaps unconsciously, we have funneled students into one stream. The current reform reports imply that only academics and the liberal arts can offer students the education to adapt. This is false. The need to integrate all aspects of the educational experience for *all* students is urgent. Educational policymakers must broaden their view of the populations vocational education should serve.

This paper adds to, but certainly does not complete, the unfinished agenda of vocational education. A future analysis for example, should address the problems of handicapped students who, according to the National Commission on Secondary Vocational Education, are underrepresented in vocational education courses. Teachers often find their preparation inadequate to deal with the special challenges these students present in vocational classes. The students may "age out" of the school system before having attained the skills and knowledge necessary to gain productive employment.

Policymakers also should analyze how and why the need for vocational training and retraining of adults is changing. Recent federal legislation has directed funds to programs that will help certain groups of adults develop basic literacy and learn job skills that will benefit the state and national economy. Many of these adults are handicapped and need vocational rehabilitation the public schools may not be able to provide. The schools have great potential, nevertheless, to guide, to transfer information to community, county, or state agencies, and to coordinate services with businesses and nonprofit organizations. The issues and details are complex enough to benefit from a future analysis.

As American education is reformed, a comprehensive definition of educational excellence should emerge. It should encompass the needs of all who seek learning and the diversity of opportunities that will meet those needs effectively. Accordingly, vocational learning will remain fundamentally important as preparation for productive adulthood as well as the world of work.